

SBM-160 LEDs

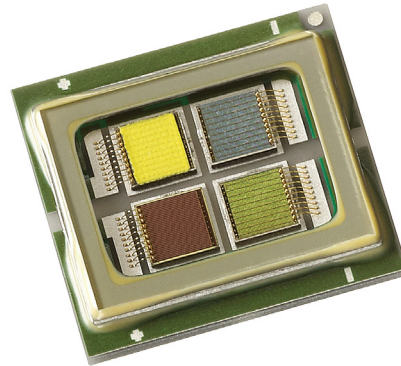


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Introduction:

This document describes the binning and labeling nomenclature for SBM-160 RGBW Big Chip LED™ product as well as the orderable bin kits for each part.

With each build of parts, there is a distribution of performance in both flux and wave length or chromaticity. In order to guarantee specific performance for customers, each device is measured and subsequently grouped into flux and wavelength or chromaticity bins. Each individual package or reel of parts contains only one combination of flux and wavelength or chromaticity bin. Furthermore, bins are combined into orderable bin kits comprising of a selection of flux and wavelength or chromaticity bins to ease the ordering process.



Table of Products

Products	Ordering Part Number	Description
SBM-160-RGBW	SBM-160-RGBW-H 41-XX123	SBM-160 RGBW Big Chip LED™ surface mount LED consisting of a red 4 mm ² LED, a green 4 mm ² LED, a blue 4 mm ² LED, a white 4 mm ² LED , tray pack
SBR-160-RGBW	SBR-160-RGBW-R 41-XX123	SBR-160 evaluation module consisting of a SBM-160 RGBW surface mount LED mounted on a development board

SBM-160 Shipping and Labeling Nomenclature

All SBM-160 RGBW products are packaged and labeled with their respective bin as outlined in the following pages. Each package will only contain one bin. The part number designation is as follows:

A B C — 1 2 3 — D E F G — H 4 1 — I J

Product Family	Chip Area	Color	Package Configuration	Bin Kit Identifier
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Product Family	A - Package type: "S" denotes surface mount B - Lens type: "B" denotes window (no lens) C - Chip quantity: "M" denotes multi-chip, and "R" denotes prototyping board
Chip Area	1 2 3 - Total LED chip area (mm ²) x 10: "160" denotes 16 mm ²
Color	D E F G- Color: "RGBW" denotes Red Green Blue White
Package Config.	H 4 5 - Package configuration (for internal use)
Bin Kit Identifier	GX: RF100 G4: RG101 G5: RG101 G6: RG102 G7: RG102

Example:

The part number SBM-160-RGBW-H41-GX refers to bin kit SBM-160-RGBW-H41-RF100 which consists of a RGBW, SBM-160 emitter, with a white flux greater than 590 lumens and a chromaticity value within the box defined by the four points (0.302, 0.296), (0.290, 0.308), (0.310, 0.345), (0.322, 0.333).

SBM-160 Bin Kit Ordering Nomenclature

All SBM-160 RGBW products are sold in sets of flux and chromaticity bins called bin kits. Each bin kit specifies a minimum flux bin and a specific selection of chromaticity bins. The ordering part number designation is as follows:

A B C — 1 2 3 — D E F G — H 4 1 — I J 6 7 8

Product Family	Chip Area	Color	Package Configuration	Bin Kit
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Product Family	A - Package type: "S" denotes surface mount B - Lens type: "B" denotes window (no lens) C - Chip quantity: "M" denotes multi-chip, and "R" denotes prototyping board			
Chip Area	1 2 3 - Total LED chip area (mm ²) x 10: "160" denotes 16 mm ²			
Color	D E F G- Color: "RGBW" denotes Red Green Blue White			
Package Config.	H 4 5 - Package configuration (for internal use)			
Bin Kit	I J - Flux bin kit code 6 7 8 - Wavelength / Chromaticity bin kit code			

Example:

The ordering part number SBM-160-RGBW-H41-RG102 refers to a bin kit containing a minimum flux value of 680 lumens, green wavelength 530 -540nm, and falling in the 1A chromaticity bins.

SBM-160 White Binning Structure

SBM-160 RGBW LEDs are tested for luminous flux and chromaticity at a drive current of 4.0 A (1.0 A/mm²) and placed into one of the following luminous flux (FF) and chromaticity (WW) bins:

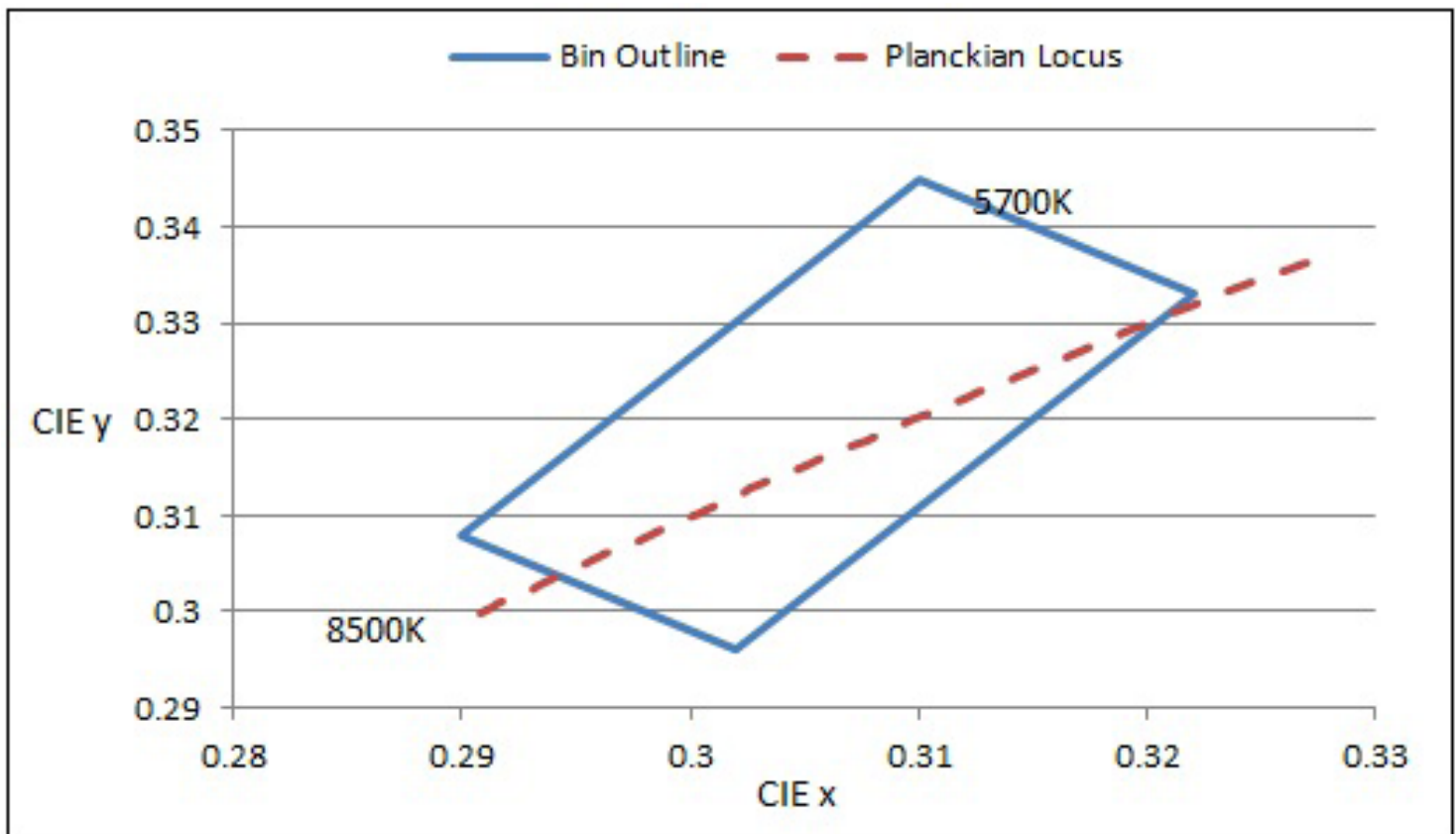
Flux Bins

Flux Bin Code (FF)	Minimum Flux (lm) @ 4.0 A	Maximum Flux (lm) @ 4.0 A
F	590	680
G	680	780

*Note: Luminus maintains a +/- 6% tolerance on flux measurements.

Chromaticity Bins

Luminus' Standard Chromaticity Bins: 1931 CIE Curve



Chromaticity Bins

Bin Code (WW)	CIE _x	CIE _y	CIE _x	CIE _y
1A	0.302	0.296	0.310	0.345
	0.290	0.308	0.322	0.333

SBM-160 Monochromatic Binning Structure

All SBM-160 monochromatic LEDs are tested for luminous flux/dominant wavelength and placed into one of the following wavelength bins. The binning structure is universally applied across each monochromatic color of the SBM-160 product line. Consult the local sales person for the available flux/wavelength bins for the product:

Wavelength Bins

Color	Wavelength Bin (FF)	Minumum Wavelength (nm) @ 4.0A	Minumum Maximum (nm) @ 4.0A
Red	R	619	627
Green	G4	520	525
	G5	525	530
	G6	530	535
	G7	535	540
Blue	B4	450	455
	B	455	465

SBM-160 and SBR-160 Bin Kit Order Codes

The following tables describe the bin kit ordering codes for SBM-160 and SBR-160. Flux and chromaticity bins are also included in the bin kit. Each kit specifies a minimum flux and the listed chromaticity bins. A maximum flux is not specified. Within each kit, Luminus may ship any part meeting or exceeding the minimum flux specification. Shipments will always meet the listed chromaticity bins. For information on ordering bin kits not listed below, please contact Luminus or an official distributor.

SBM-160 and SBR-160 Bin Kit Order Codes

Color	Luminous Flux		White Chromaticity Bins	Monochromaticity Wavelength Bins			Kit Number
	Bin Kit Flux Code	Min. Flux		Red	Green	Blue	
RGBW	RF	590	1A	R	G4, G5, G6, G7	B4, B	RF100
	RG	680	1A	R	G4, G5	B	RG101
				R	G6, G7	B	RG102

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